REMARKS

The Office Action dated January 18, 2005 has been received and carefully noted. The above amendments to the specification and claims, and the following remarks, are submitted as a full and complete response thereto.

Claims 1, 2, 4, 5, 6, 8, 10, 12, 13, 15, 17, 19, 21, and 23 have been amended. Claims 24-26 have been added. No new matter has been added, and no new issues are raised which require further consideration and/or search. Claims 1-26 are submitted for consideration

Claims 2-11 and 13-22 were objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Applicant wishes to thank the Examiner for indicating the allowability of claims 2-11 and 13-22. Claims 2-11 and 13-22 have been rewritten in independent form. Therefore, Applicant requests that this objection be withdrawn.

Claims 1 and 12 were rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,252,848 to Skirmont. The rejection is traversed as being based on a reference that neither teaches nor suggests the novel combination of features clearly recited in independent claims 1 and 12.

Claim 1, upon which claims 2-11 depend, recites a method of marking a packet stream including a plurality of data packets from a source. The method includes the steps of determining a sending rate estimate, s and determining any credits or debits for the

packet stream. A probability marking of the packet stream is improved while there is a sufficiently accumulated credit and when a first criterion is met. The method further includes the step of probabilistically marking the packet stream to one of a plurality of priority levels based on the sending rate estimate, s.

Claim 12, upon which claims 13-22 depend, recites an apparatus for marking a packet stream including a plurality of data packets from a source. The apparatus includes a means for determining a sending rate estimate, s and a means for determining any credits or debits for the packet stream. A probability marking of the packet stream is improved while there is a sufficiently accumulated credit and when a first criterion is met. The apparatus also includes a means for probabilistically marking the packet stream to one of a plurality of priority levels based on the sending rate estimate, s.

As will be discussed below, Skirmont fails to disclose or suggest the elements of claims 1 and 12.

Skirmont teaches a data network that includes data channels which take as inputs data from flows. The channels pass the data through traffic monitors to a switch which in turn passes the data to queues. Col. 3, line 65-Col. 4, line 3. The data in each of the flows includes a sequence of packets, each of which is marked in the corresponding traffic monitor through which the packet passes. A marking can be based on measurements taken at the traffic monitor and/or on other data including a flow profile that is associated with each flow. The flow profile includes a lower threshold and an upper threshold for the bandwidth and a packet is marked as "LOW", "NORMAL", or

"HIGH" according to whether the concurrently measured bandwidth is below, between or above the thresholds. Col. 4, lines 7-25. A packet is dropped in the corresponding queue based on an assigned drop probability and a random test. The probability of dropping a packed is assigned according to the average queue size and the marking of the packet, where for a packet marked as "HIGH", "NORMAL" or "LOW", the drop probability is determined from the corresponding marking curve. Once the drop probability of a packet is determined, the packet may or may not be dropped according to a random test. If the packet is not dropped, it is enqueued. Col. 4, lines 26-37. Each traffic monitor includes an ingress monitor for each flow that is associated with the channel. The traffic monitor includes a flow ID function for identifying data packets from data flows, where packets are passed through the ingress monitor corresponding to the flow, marked by the packet marker and passed to the switch. Col. 4, lines 38-44.

Applicant respectfully submits that Skirmont fails to teach or suggest each element of independent claims 1 and 12. Independent claim 1 in part recites determining any credits or debits for the packet stream, wherein a probability marking of the packet stream is improved while there is a sufficiently accumulated credit and when a first criterion is met; and probabilistically marking the packet stream to one of a plurality of priority levels based on the sending rate estimate, s. Independent claim 12 in part recites means for determining any credits or debits for the packet stream , wherein a probability marking of the packet stream is improved while there is a sufficiently accumulated credit and when a first criterion is met; and means for probabilistically marking the packet

stream to one of a plurality of priority levels based on the sending rate estimate, s. Applicant respectfully submits that Skirmont fails to disclose or suggest determining any credits or debits for the packet stream prior to marking the packet stream, wherein a probability marking of the packet stream is improved while there is a sufficiently accumulated credit and when a first criterion is met as recited in claims 1 and 12. Therefore, Applicants respectfully submit that Skirmont does not teach or suggest each of the elements recited in claims 1 and 12 and that the rejection under 102(e) be withdrawn.

Claim 23 was rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,463,068 to Lin et al. The rejection is traversed as being based on a reference that neither teaches nor suggests the novel combination of features clearly recited in independent claim 23.

Claim 23 recites a method to determine probabilities for marking a packet to a priority level. The method includes the steps of determining a first probability by using a first algorithm and determining at least one second probability by using a second algorithm, the first algorithm being different from the second algorithm. The method also includes the step of weighting each probability so that each probability contributes to a net probability.

As will be discussed below, the cited prior art reference of Lin et al. fails to disclose or suggest the elements of claim 23.

Lin et al. teaches a network with endstations and nodes that assign packets to classes of service based on information contained in the packets and/or on predetermined

traffic management rules that are provided by the network manager and/or various service providers. The classes of service are essentially associated with maximum limits for transmission delays and probabilities of packet loss. Higher classes are associated with shorter maximum delays and lower probabilities of packet loss. Col.3, lines 1-8. The network includes routers, each of which includes a classifier that associates a received packet with one of the classes of service. Col. 3, lines 33-35. The network also includes a policier that enforces network or service provider usage parameter controls by marking, discarding or passing the packet. If the policier marks an offending packet, it assigns the packet to a higher loss priority within the associated class of service. This increases the likelihood that the packet will be discarded if the network becomes congested. If the packet is already assigned the highest loss priority within the class of service, the policier either passes or discards the packet, depending on the traffic management rules. Col. 4, lines 1-22. A WRED processor determines which of the packets that the policier has not discarded are to be retained in a buffer that holds the packets for every output port. The WRED processor uses a modified weighted random detection scheme, where each of the classes of service is associated with a maximum threshold and a minimum threshold. The WRED processor keeps track of the average number of available storage locations in the buffer. If the buffer is empty, all of the buffer storage locations are linked to a free queue. As packets are retained, buffer locations are removed from the free queue and linked to the appropriate class of service per output port queues. Each time a packet is received, the WRED processor determines

a new weighted average free queue depth. The WRED processor compares the weighted average with the maximum threshold and the minimum threshold values associated with the appropriate one of the classes of service. If the weighted average exceeds the maximum threshold, the WRED processor retains the packet. If the weighted average falls below the minimum threshold value, the WRED process discards the packet. If the weighted average falls between the maximum threshold and the minimum threshold values, the WRED processor calculates a probability to discard. Col. 4, line 39 – Col 5, line 26.

Applicant respectfully submits that Lin et al. fails to teach or suggest each element of independent claim 23. Independent claim 23 recites of determining a first probability by using a first algorithm, determining at least one second probability by using a second algorithm, the first algorithm being different from the second algorithm and weighting each probability so that each probability contributes to a net probability. Applicant respectfully submits that Lin et al. fails to disclose or suggest determining a first probability by using a first algorithm and determining at least one second probability by using a second algorithm, the first algorithm being different from the second algorithm as recited in claim 23. Therefore, Applicant therefore requests that that 102(e) rejection be withdrawn because Lin et al. does not teach each of the elements recited in claim 23.

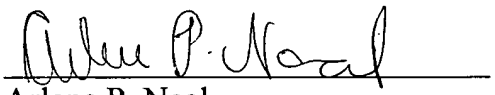
As noted previously, claims 1 and 12 recite subject matter which is neither disclosed nor suggested in Skirmont. Claim 23 also recites subject matter which is neither disclosed nor suggested in Lin et al. Each of newly added claims 24-26 recite

subject matter that is neither disclosed or suggested in the cited prior art references. It is therefore respectfully requested that all of claims 1-26 be allowed and this application passed to issue.

If for any reason the Examiner determines that the application is not now in condition for allowance, it is respectfully requested that the Examiner contact, by telephone, the applicant's undersigned attorney at the indicated telephone number to arrange for an interview to expedite the disposition of this application.

In the event this paper is not being timely filed, the applicant respectfully petitions for an appropriate extension of time. Any fees for such an extension together with any additional fees may be charged to Counsel's Deposit Account 50-2222.

Respectfully submitted,



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RCE Transmittal
Additional Claims Transmittal
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